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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/653,613	08/31/2000	Alan Lasneski	004589.P003	4147

7590 05/17/2004

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EXAMINER

SHAPIRO, LEONID

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 05/17/2004

24

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/653,613

Applicant(s)

LASNESKI, ALAN

Examiner

Leonid Shapiro

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-21, 23-27 and 29-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-21, 23-27 and 29-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the newly introduced limitation of claims 17, 23 and 29: " sending the **captured frames** to a display object that projects the **captured frames** to replicate analog image data **substantially during analog to digital conversion**" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

The newly introduced limitation of claims 17, 23 and 29: " sending the **captured frames** to a display object that projects the **captured frames** to replicate analog image data **substantially during analog to digital conversion**" was not described in the specification and contradicted to the specification. According to the specification, only captured **reference frames** sent to a display object (See Page 19, Lines 19-25). The inbound frames become captured **reference frames** only **after** every pixel of every line of inbound frame that triggered the capture has been **completely processed** (See

page 19, Lines 13-17) and determining that preceding **inbound frame** exceeds a certain threshold of change (See page 19, Line 23). Therefore, it is impossible to replicate analog image data substantially during analog to digital conversion.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 17, 23 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear how the newly introduced limitation of claims 17, 23 and 29: "sending the **captured frames** to a display object that projects the **captured frames** to replicate analog image data **substantially during analog to digital conversion**" could be done before completing the processing every pixel of every line of **inbound frame**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 17-21, 23-27 and 29-33 rejected under 35 U.S.C. 103(a) as being unpatentable over Kuzma (US Patent No. 5,574,700) in view of Manning (US Patent 5,519,790) and Drake et al. (US Patent No. 5,550,966).

As to claim 17, as best understood by examiner, Kuzma teaches a method comprising: converting a frame of analog image data to a frame of digital image data (See Fig 1-2, items 101-105, 220, 240, in description See Col.5, Lines 13-14); capturing the frame of digital image data (See Fig. 2, items 210,230,240, in description See Col. 5, Lines 45-65); converting subsequent frames of analog image data to frames of digital image data (See Fig. 2, items 210,230,240, in description See Col. 5, Lines 45-65); sending the captured frames to a display object (See Fig 1-2, items 101-105, 220, 240, in description See Col. 4, Lines 50-53) that displays the captured frames to replicate analog image data substantially during analog to digital conversion (See Fig 1-2, items 101-105, 220, 240, in description See Col. 4, Lines 52-63); eliminating frames having pixel data that fail to differ from pixel data of captured frame more than the threshold amount (See Figs. 2, 6, items 220, 230, 240, 605-607, Col. 5, Lines 58-60 and Col. 6, Lines 40-42).

Kuzma teaches comparing frames (See Fig. 6, item 602). However, Kuzma does not teach comparing pixel data of the converted subsequent frames to the pixel data of the captured frame to identify a converted subsequent frame having pixel data that differs from the pixel data of the captured frame by a threshold amount, capturing the identified frame.

Manning teaches that after a key frame is established the next frame is compared to the key frame to determine whether the next frame is another key frame, capture the new key frame (See Fig. 2a-2c, items 42,50, in description See col.2, Lines 27-32); wherein the non-captured or (non-key) frames are skipped (See Fig. 2c, items 50,56,66, in description See Col. 6, Lines 3-5).

It would have been obvious to one ordinary skill in the art at the time of invention to use Manning approach in the Kuzma method of comparing frames to reduce video noise and also improve compressibility, required bandwidth, and reduce the storage capacity, which is always desired in any data processing (See Col. 2, Lines 15-16 in the Manning reference).

Kuzma and Manning do not show a display object that projects the captured frames.

Drake et al. teaches a display object that projects the captured frames (See Fig. 1, items 16, 18, Col. 2, Lines 50-51 and Col. 6, Lines 34-36).

It would have been obvious to one ordinary skill in the art at the time of invention to use Drake et al. approach in the Kuzma and Manning method in order to implement an automated system for capturing and replaying visual presentation (See Col. 1, Lines 9-11 in Drake et al. reference).

As to claim 18, Manning teaches the method of reducing video noise, which includes phase noise, with the threshold selection (See Col.1, Lines 53-55).

As to claim 19, Manning uses pixel values as numerical value for each color of each pixel and the difference between any of the plurality of pixel values is the

difference between the numerical values for each color of each of the corresponding pixels of the converted subsequent frames to the pixel data of the captured frame (See Fig. 3-5, in description See Col. 2, Lines 26-33).

As to claim 20, Manning shows that the difference between any of the plurality of pixel values of the compared frames exceeds a pre-selected threshold value when the absolute value of the difference is greater than the pre-selected threshold value (See Fig.2b, item 42, in description See Col.2, Lines 25-32).

As to claim 21, Manning shows that the color for each pixel includes the color red, green, and blue (See Fig. 1, item 10, 12, 14, 16, in description See Col. 3, Lines 12-14).

As to claim 23, as best understood by examiner, Kuzma teaches an article of manufacture comprising a machine accessible medium having content that when accessed provides instructions to cause an electronic system to: convert a frame of analog image data to a frame of digital image data (See Fig 1-2, items 101-105, 220, 240, in description See Col.5, Lines 13-14); capture the frame of digital image data frames (See Fig. 2, items 210,230,240, in description See Col. 5, Lines 45-65); convert subsequent frames of analog image data to frames of digital image data (See Fig. 2, items 210,230,240, in description See Col. 5, Lines 45-65); sending the captured frames to a display object (See Fig 1-2, items 101-105, 220, 240, in description See Col. 4, Lines 50-53) that projects (displays) the captured frames to replicate analog image data substantially during analog to digital conversion (See Fig 1-2, items 101-105, 220, 240, in description See Col. 4, Lines 52-63); eliminating frames having pixel data that fail to differ from pixel data of captured frame more than the threshold amount

(See Figs. 2, 6, items 220, 230, 240, 605-607, Col. 5, Lines 58-60 and Col. 6, Lines 40-42).

Kuzma teaches comparing frames (See Fig. 6, item 602). However, Kuzma does not teach compare pixel data of the converted subsequent frames to pixel data of the captured frame to identify a converted subsequent frame having pixel data that differs from the pixel data of the captured frame by a threshold amount, capture the identified frame.

Manning teaches that after a key frame is established the next frame is compared to the key frame to determine whether the next frame is another key frame, capture the new key frame (See Fig. 2a-2c, items 42,50, in description See col.2, Lines 27-32); wherein the non-captured or (non-key) frames are skipped (See Fig. 2c, items 50,56,66, in description See Col. 6, Lines 3-5).

It would have been obvious to one ordinary skill in the art at the time of invention to use Manning approach in the Kuzma article of manufacturing of comparing frames to reduce video noise and also improve compressibility, required bandwidth, and reduce the storage capacity, which is always desired in any data processing (See Col. 2, Lines 15-16 in the Manning reference).

Kuzma and Manning do not show a display object that projects the captured frames Drake et al. teaches a display object that projects the captured frames (See Fig. 1, items 16, 18, Col. 2, Lines 50-51 and Col. 6, Lines 34-36).

It would have been obvious to one ordinary skill in the art at the time of invention to use Drake et al. approach in the Kuzma and Manning method in order to implement

an automated system for capturing and replaying visual presentation (See Col. 1, Lines 9-11 in Drake et al. reference).

As to claim 24, Manning teaches the article of manufacture of reducing video noise, which includes phase noise, with the threshold selection (See Fig. 2, in description See Col.3, Lines 29-33, and Col. 2, Lines 28-33).

As to claim 25, Manning uses pixel values as numerical value for each color of each pixel and the difference between any of the plurality of pixel values is the difference between the numerical values for each color of each of the corresponding pixels of the converted subsequent frames to the pixel data of the captured frame (See Fig. 3-5, in description See Col. 2, Lines 26-33).

As to claim 26, Manning shows that the difference between any of the plurality of pixel values of the compared frames exceeds a pre-selected threshold value when the absolute value of the difference is greater than the pre-selected threshold value (See Fig.2b, item 42, in description See Col.2, Lines 25-32).

As to claim 27, Manning shows that the color for each pixel includes the color red, green, and blue (See Fig. 1, item 10, 12, 14, 16, in description See Col. 3. Lines 12-14).

As to claim 29, as best understood by examiner, Kuzma teaches an apparatus comprising: a frame conversion unit to convert frames of analog image data to a frame of digital image data (See Fig 1-2, items 101-105, 220, 240, in description See Col.5, Lines 13-14); a buffer coupled with frame conversion unit to store a frame of digital image data and subsequent converted frames (See Fig. 2, items 210,230,240, in description See Col. 5, Lines 45-65), a transmission unit to send the frame of digital

image data and the identified frame to a display object (See Fig 1-2, items 101-105, 220, 240, in description See Col. 4, Lines 50-53) that projects (displays) the captured frames to replicate analog image data substantially during analog to digital conversion (See Fig 1-2, items 101-105, 220, 240, in description See Col. 4, Lines 52-63); eliminating frames having pixel data that fail to differ from pixel data of captured frame more than the threshold amount (See Figs. 2, 6, items 220, 230, 240, 605-607, Col. 5, Lines 58-60 and Col. 6, Lines 40-42).

Kuzma teaches comparing frames (See Fig. 6, item 602). However, Kuzma does not teach a processor coupled with buffer to compare the pixel data of the frame of digital image data and pixel data from the subsequent converted frames to identify a subsequent converted frame having pixel data that differs from the pixel data of the frame of digital image data by a threshold amount .

Manning teaches that after a key frame is established the next frame is compared to the key frame to determine whether the next frame is another key frame, capture the new key frame (See Fig. 2a-2c, items 42,50,66 in description See Col.2, Lines 27-32); a transmission unit to send the frame of digital image data and the identified frame to a display object (See Col. 6, Lines 1-11 and Col. 5, Lines 58-60).

It would have been obvious to one ordinary skill in the art at the time of invention to use Manning approach in the Kuzma method of comparing frames to reduce video noise and also improve compressibility, required bandwidth, and reduce the storage capacity, which is always desired in any data processing (See Col. 2, Lines 15-16 in the Manning reference).

Kuzma and Manning do not show a display object that projects the captured frames.

Drake et al. teaches a display object that projects the captured frames (See Fig. 1, items 16, 18, Col. 2, Lines 50-51 and Col. 6, Lines 34-36).

It would have been obvious to one ordinary skill in the art at the time of invention to use Drake et al. approach in the Kuzma and Manning method in order to implement an automated system for capturing and replaying visual presentation (See Col. 1, Lines 9-11 in Drake et al. reference).

As to claim 30, Manning teaches the apparatus of reducing video noise, which includes phase noise, with the threshold selection (See Fig. 2, in description See Col.3, Lines 29-33, and Col. 2, Lines 28-33).

As to claim 31, Manning uses pixel values as numerical value for each color of each pixel and the difference between any of the plurality of pixel values is the difference between the numerical values for each color of each of the corresponding pixels of the converted subsequent frames to the pixel data of the captured frame (See Fig. 3-5, in description See Col. 2, Lines 26-33).

As to claim 32, Manning shows that the difference between any of the plurality of pixel values of the compared frames exceeds a pre-selected threshold value when the absolute value of the difference is greater than the pre-selected threshold value (See Fig.2b, item 42, in description See Col.2, Lines 25-32).

As to claim 33, Manning shows that the color for each pixel includes the color red, green, and blue (See Fig. 1, item 10, 12, 14, 16, in description See Col. 3. Lines 12-14).

5. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Drake et al. in view of Manning.

Drake et al. teaches a method, comprising: sampling a signal of an analog video to generate a plurality of frames of digitized image data, each frame having plurality of pixel values (See Fig. 1, items 16, 24, Col. 2, Lines 53-62); and substantially during sampling, repeatedly: selecting a sampled frame when values differ from pixel values of a previously captured frame (See Fig. 2, items 52, 54, 56, from Col. 3, Line 55 to Col. 4, Line 4), capturing selected sampled frame into a memory (See Fig. 2, item 70, Col. 4, Lines 38-39); transmitting captured frames to a display object (See Fig. 1, items 10, 12, 80, Col. 5, Lines 7-13); and projecting transmitted captured frame by display object to replicate analog video (See Fig. 1, items 16, 18, Col. 2, Lines 50-51 and Col. 6, Lines 34-36).

Drake et al. does not show selecting a sampled frame when pixel values differ from pixel values of a previously captured frame by a threshold amount and eliminating sampled frame when pixel values fail to differ from pixel values of previously captured frame by the threshold amount of the captured frame by a threshold amount, capturing the identified frame.

Manning teaches that after a key frame is established the next frame is compared to the key frame to determine whether the next frame is another key frame, capture the new key frame (See Fig. 2a-2c, items 42, 50, in description See col. 2, Lines

27-32); wherein the non-captured or (non-key) frames are skipped (See Fig. 2c, items 50,56,66, in description See Col. 6, Lines 3-5).

It would have been obvious to one ordinary skill in the art at the time of invention to use Manning approach in the Drake et al. method in order to reduce video noise and also improve compressibility, required bandwidth, and reduce the storage capacity, which is always desired in any data processing (See Col. 2, Lines 15-16 in the Manning reference).

Response to Amendment

6. Applicant's arguments with filed on 03-01-04 in respect to claims 17-21, 23-27, 29-33 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

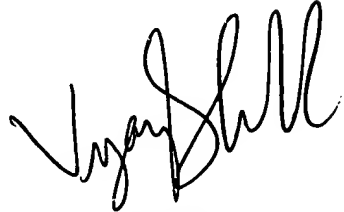
Telephone inquire

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 703-305-5661. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ls 05.10.04


VIJAY SHANKAR
PRIMARY EXAMINER